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On downey's conjecture

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Abstract

We prove that the degree structures of the d.c.e. and the 3-c.e. Turing degrees are not elementarily equivalent, thus refuting a conjecture of Downey. More specifically, we show that the following statement fails in the former but holds in the latter structure: There are degrees f > e > d > 0 such that any degree u < f is either comparable with both e and d, or incomparable with both. © 2010. Association for Symbolic Logic.

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Keywords

D.c.e. degrees, Downey's conjecture, N.-c.e. degrees